

REMARKS

In the final Office Action¹ mailed November 9, 2009, the Examiner rejected claim 14 under 35 U.S.C. § 102(b) as being anticipated by Davis (U.S. Patent No. 6,619,804, hereafter "Davis"); rejected claims 14 and 16-20 under 35 U.S.C. § 103(a) as being unpatentable over Hiller (U.S. Patent No. 6,233,024, hereafter "Hiller") in view of Davis²; and rejected claim 15 under 35 U.S.C. § 103(a) as being unpatentable over Hiller in view of Davis and in further view of Cotton (U.S. Patent No. 6,719,430, hereafter "Cotton"). Claims 14-20 remain pending and under consideration.

Applicants respectfully traverse the rejection of claim 14 under 35 U.S.C. § 102(b) as being anticipated by Davis.

Claim 14 recites a projection-type image display apparatus, comprising, among other things, "a projection optical system . . . [including] a first optical system that forms an intermediate image of [a] primary image surface; and a second optical system having a concave reflector that forms [a] secondary image surface according to the intermediate image," (emphasis added). Davis fails to teach or suggest the claimed invention, including at least the claimed projection optical system.

¹ The final Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicants decline to automatically subscribe to any statement or characterization in the final Office Action.

² The Examiner indicated that claims 14 and 16-20 are rejected under 35 U.S.C. § 103(a) based on Hiller, Davis, and Cotton. Final Office Action at 5. However, the Examiner did not discuss Cotton with respect to claims 14 and 16-20. Accordingly, Applicants assume that the Examiner intended to reject claims 14 and 16-20 under 35 U.S.C. § 103(a) based only on Hiller and Davis.

The Examiner asserted, "Davis discloses . . . (c) A first optical system that includes the optical elements on Illumination path 15a and Relay path 34, where an image of SLM 33 (the primary image surface) is formed at the intermediate image plane of lenses 34a as shown in Figure 3 above. Col. 4, line 16-33, [and] (d) A second optical system that includes optical elements on Image path 15b, which includes concave mirror 34b and Projection optics 37 that creates an image on the display system screen. Col. 4, line 16-33." Final Office Action at 4, emphasis added.

Accordingly, it appears that the Examiner characterized lenses 34a of Davis as corresponding to the claimed first optical system, and characterized concave mirror 34b and projection lens 37 of Davis as corresponding to the claimed second optical system. The Examiner's characterizations of Davis, however, are not correct.

For example, Davis, at column 5, lines 8-10, states, "[t]he light rays pass through lenses 34a offset relative to the center of lenses 34a," (emphasis added). Accordingly, Davis merely discloses that lenses 34a offset light rays passing therethrough. Davis does not disclose that lenses 34a could possibly form an image. Therefore, lenses 34a of Davis cannot reasonably correspond to the claimed first optical system, because claim 14 requires "a first optical system that forms an intermediate image," (emphasis added).

Further, Davis, at column 5, lines 18-20, states, "[t]he second set of lenses 34c in the relay path 34 receives light reflected from mirror 34b. It [i.e., lenses 34c] creates an image of the SLM 33, at an intermediate image plane," (emphasis added), and at column 5, lines 58-59, states, "[a] second set of lenses 37c projects the image [at the intermediate image plane] to the display screen 12 or 22," (emphasis added).

Accordingly, Davis at best discloses that lenses 34c forms an image at the intermediate image plane based on light reflected from mirror 34b, and that projection lens 37 forms an image on display screen 12 or 22 according to the image at the intermediate image plane. Davis does not disclose that mirror 34b forms an image on display screen 12 or 22 according to the image at the intermediate image plane. Therefore, mirror 34b of Davis cannot reasonably correspond to the claimed second optical system, because claim 14 requires that "a second optical system having a concave reflector that forms the secondary image surface according to the intermediate image [formed by the first optical system]," (emphasis added). Moreover, mirror 34b of Davis cannot be combined with projection lens 37 to meet the claimed second optical system, because any image that could be formed by mirror 34b is not formed according to the image at the intermediate image plane.

For at least the above reasons, claim 14 is distinguishable over Davis. Applicants thus respectfully request that the Examiner withdraw the rejection of claim 14 under 35 U.S.C. § 102(b) as being anticipated by Davis.

Applicants respectfully traverse the rejection of claims 14 and 16-20 under 35 U.S.C. § 103(a) as being unpatentable over Hiller in view of Davis.

The Examiner acknowledged that Hiller fails to teach the claimed projection optical system including the claimed first optical system and the claimed second optical system. Final Office Action at 6. The Examiner cited Davis to cure the deficiencies of Hiller. For at least the reasons set forth above, Davis fails to cure the deficiencies of Hiller. Accordingly, claim 14 is distinguishable over Hiller and Davis.

Claims 16-20 depend from claim 14, and are distinguishable over Hiller and Davis at least due to their dependence.

Applicants respectfully traverse the rejection of claim 15 under 35 U.S.C. § 103(a) as being unpatentable over Hiller in view of Davis and further in view of Cotton.

Claim 15 depends from claim 14 and requires all the elements of claim 14. The Examiner cited Cotton merely as allegedly disclosing subject matter recited in claim 14. Final Office Action at 9. Accordingly, Cotton fails to cure the deficiencies of Hiller and Davis, and claim 15 is distinguishable over Hiller, Davis, and Cotton.

In view of the foregoing remarks, Applicants respectfully request reconsideration of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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